## RESPONSE

Applicants, through their attorney, respectfully request the Examiner to consider the application in view of the following remarks.

<u>Support</u>

Applicants have amended claims 1, 11 and 22 to require that the fluid additive gel have a tan delta value of ≤ 0.75. Support for this amendment is found on page 6, lines 7-16 of the specification.

<u>Remarks</u>

The Examiner rejected claims 1, 2, 5-20 and 22-24 under 35 U.S.C. § 103(a) as being unpatentable over Higton, et. al., (6,310,010). The Examiner is of the position that Higton meets the limitations of the claims when a dispersant, detergent and antioxidant combination in a package forms a gel and that a slow release of additive from the gel into a lubricating fluid is obvious. Applicants respectfully disagree.

Applicants have filed, with this response, a declaration under 37 C.F.R. 1.132 which includes data that demonstrates the significant differences between the viscous liquids of Higton and the fluid additive gels of the present invention. The data in the declaration shows the examples taught by Higton, described as having a "large" Weissenberg Effect and which are the most viscous and most "gel-like" materials taught by the reference, have significantly different properties than the gels of the present invention.

Specifically, Figure 1 in the declaration shows the rotational viscosity profiles of two inventive examples, the two "large Weissenberg Effect" samples from Higton and three additional samples of viscous liquids in line with the teachings of Higton. The plot shows that true gels, as described by the present invention have rotational viscosity profiles that extend significantly higher than non-gel materials and experience large fluctuations or bounce that does not level out over time (see Inventive Examples 1 & 2). In contrast, viscous liquids, as shown in the plot, have smooth viscosity profiles that level out fairly quickly (see Comparative Examples 3, 4 and 5). Some viscous liquids do experience an increase in viscosity, which can be significant, but which also tends to level out and provide a smooth viscosity profile over time. This phenomenon is the Weissenberg Effect Higton refers to abd which is demonstrated in Figure 1 (see Comparative Examples 1 and 2). However, these

7

types of materials do not achieve the same high rotational viscosity values seen by the gels of the present invention, nor do they show the characteristic fluctuations or bounce seen in gels. The rotational viscosity profiles in Figure 1 so the fundamental difference in nature between the gels of the present invention and the viscous liquids of Higton.

In addition, Table 3 in the declaration shows that the inventive samples have storage modulus values >100 while all of the other samples, including the "large Weissenberg Effect" samples from Higton have storage modulus values >20. Table 3 also shows that the inventive samples have tan delta values of 0.22 and 0.15 while all of the other samples, including the "large Weissenberg Effect" samples from Higton have tan delta values of 0.94, 1.11 or higher. All of these differences demonstrate that the samples in Higton, though viscous and impacted by the Weissenberg Effect, are not "gels" in the sense the term is used in the present application and in any event are significantly different from the gels in the present application.

The Examiner notes that Higton teaches weight ratios of dispersant to detergent from 0.1:1 to 1:10. However, these ranges are provided in Higton to teach possible ratios in concentrate compositions and is not a teaching of ranges where a Weissenberg Effect is observed, let alone where a true gel, with the viscometric characteristics shown in the declaration, is formed. In addition, the only Higton examples where a "large" Weissenberg Effect is shown, including the control sample the reference gives as its worse case scenario, were reproduced in the declaration and are significantly different in nature from the inventive samples prepared. As discussed above, the inventive samples have much lower tan delta values than the samples reproduced from Higton as well as different viscosity profiles, as measured by their rotational viscosities over time.

Applicants have amended the claims to require that the fluid additive gel of the present invention has a tan delta value of ≤ 0.75. The data in the declaration shows this tan delta value is obtained in the range of weight ratios required by the present claims and is not achieved by the examples in Higton, whose "worse case scenarios" gave tan delta values of 1.11 and 0.94. Applicants note that nothing in Higton would lead one skilled in the art to believe the compositions of the present invention would have such significantly different viscometric properties, and it is these properties that allow the compositions of the present invention to be effective controlled release additives.

8

While it may have been obvious to one skilled in the art to contact the viscous concentrates of Higton with oil and to expect those concentrates to dissolve, slowly or otherwise, into the oil, it is not obvious from the teachings of Higton, that fluid additive gels, having tan delta values significantly lower than those of the materials in Higton, can be obtained in the narrow range of weight ratios required by the present invention.

Therefore, the present invention is both novel and non-obvious over Higton, because the reference does not teach, disclose or suggest the significantly different viscometric properties of the compositions of the present invention, which are critical to the present invention's performance as a controlled release additive. One skilled in the art, in view of Higton, would not expect the compositions of the present invention to have the significantly different viscosity profiles, lower tan delta values and higher storage modulus values when compared to the Higton examples that experience a "large" Weissenberg effect. There is nothing in Higton that would lead one skilled in the art to believe that compositions that fall within the weight ratios specified in the current claims would have these unique characteristics.

Conclusion

For the reasons set forth above, Applicants' present invention as claimed is novel and not obvious over the reference. Applicants respectfully request the Examiner to remove the 35 USC 103(a) rejections and find all claims allowable.

If any fees are due, the Commissioner is authorized to charge such fee to The Lubrizol Corporation Deposit Account No. 12-2275.

<div align="right">

Respectfully submitted,

THE LUBRIZOL CORPORATION

/Christopher D. Hilker #58,510/

Christopher D. Hilker
Registration No. 58,510
Attorney for Applicants

</div>

29400 Lakeland Blvd.
Wickliffe, Ohio 44092-2298
Telephone:   440-347-4231
Facsimile:   440-347-1110
E-mail: chris.hilker@lubrizol.com